CLAIMS:

1. A demountable drive mechanism for coupling to a drive shaft of an operating device, the drive mechanism being directly secured to the drive shaft to cause the drive shaft to rotate, the drive mechanism comprising a geared electric motor having an output for coupling to the drive shaft, the drive mechanism having a torque arm adapted to engage a reaction surface so that the electric motor can impart torque to the drive shaft, and control means to control operation of the electric motor.

2. The demountable drive mechanism according to claim 1 wherein the torque arm is mounted on the drive mechanism parallel to the output shaft.

3. The demountable drive mechanism according to claim 2 wherein the torque arm is mounted on a bracket which is suitably built to be mounted on a reaction surface, whereby engagement of the torque arm against the reaction surface absorbs the torque imparted by the electric motor on the reaction surface.

4. The demountable drive mechanism according to claim 1 wherein the bracket is firmly attached to a trailer chassis and the torque arm is integrally formed with the brackets whereby the torque arm connects into a socket on the electric motor.

5. The demountable drive mechanism according to claim 1 wherein the drive mechanism is supported by the drive shaft.

6. The demountable drive mechanism according to claim 1 including a direct drive socket for receiving a crank handle whereby rotation of the crank handle causes rotation of the drive shaft to manually operate the operating device in the event of the electric motor being inoperable.

7. The demountable drive mechanism according to claim 6 wherein the drive socket is located in the opposite end of the output shaft of the drive mechanism to

the end that couples with the drive shaft.

8. The demountable drive mechanism according to claim 1 wherein the electric motor is powered by at least one battery carried by the trailer.

9. The demountable drive mechanism according to claim 1 wherein the electric motor is driven by a power source of a prime mover that is adapted to be attached to the semi trailer.

10. The demountable drive mechanism according to claim 1 wherein the control means to control operation of the electric motor includes a sensor to determine air pressure in a braking system of the trailer to ensure that the trailer brakes are engaged during operation of the drive mechanism.

11. The demountable drive mechanism according to claim 1 wherein the control means includes a wireless remote control unit.

12. The demountable drive mechanism according to claim 11 wherein the wireless remote control unit includes a wireless transmitter and a receiver and controller mounted in proximity to the electric motor.

13. The demountable drive mechanism according to claim 12 wherein the receiver and controller are powered by a 12 volt battery that also powers the electric motor.

14. The demountable drive mechanism according to claim 1 wherein the control means includes a master control unit for receiving input signals from remote switches.

15. The demountable drive mechanism according to claim 14 wherein the remote switches are operator switches or field switches.

16. The demountable drive mechanism of claim 15 wherein the field switches may be any one or more of: limit switches; proximity sensors or inclinometers.

17. The demountable drive mechanism according to claim 16 having limit switches providing an indication of any one or more of the following parameters:

a) a first position of the operating device,

b) a second position of the operating device, or

c) trailer clear of an associated prime mover.

18. The demountable drive mechanism according to claim 14 wherein the master control unit is connected to more than one electric motor such that the electric motors can be controlled simultaneously and relative to one another.

19. The demountable drive mechanism according to claim 1 wherein the electric motor includes an armature that is fed by direct current through a plurality of brushes, monitoring means to monitor the current passing through the brushes over a period of time, storing means to store the measured information, comparative means to compare this information with the known wear rate of electric motor brushes, and signaling means to provide a signal that indicates that the brushes have been subjected to a particular current for a particular period of time that equates to an indication of a worn brush.

20. The demountable drive mechanism according to claim 19 wherein the warning indication is through a light emitting diode that is illuminated when the brush is in its last 10% or preset portion of usable life.

21. The demountable drive mechanism of claim 20 wherein the light emitting diode flashes and the flash sequence is related to the usable life still available.

22. The demountable drive mechanism of claim 19 wherein the storing means is a microprocessor coupled to the motor to store data and to provide a visual indication

of the stored data.

23. The demountable drive mechanism of claim 20 wherein a flashing mounted light emitting diode provides a visual indication of brush failure.

24. The demountable drive mechanism of claim 19 wherein the electric motor has at least two alternative operational brushes, the motor including switching means to switch from one brush assembly to another should a brush become open circuit and fail.

25. The demountable drive of claim 22 wherein the stored data of the microprocessor may be interrogated by linking a computer to the microprocessor.

26. The demountable drive mechanism of claim 1 wherein the electric motor has an operating current that is monitored in small time increments wherein a maximum allowable current is set as a percentage above the operating current being monitored so that should there be a significant and rapid increase in operating current the motor shuts down.

27. The demountable drive mechanism of claim 1 wherein solid state relays are interposed between the electric input of the electric motor and the electric motor, the solid state relays causing the voltage of the electric motor to pulse and cap the operating current peak when the motor is first switched on.

28. The demountable drive mechanism of claim 26 wherein the solid state relays are field effect transistors.

29. A demountable drive mechanism for coupling to a drive shaft of a hopper door in a hopper trailer, the drive mechanism being directly secured to the drive shaft to cause the drive shaft to rotate, the drive mechanism comprising a geared electric motor having an output shaft for coupling to the drive shaft, the drive mechanism

having a torque arm adapted to engage the trailer body so that the electric motor can impart torque to the drive shaft, and control means to control operation of the electric motor.

30. A demountable drive mechanism for coupling to a drive shaft of an operating device for displacing a wall of an extendible trailer, the drive mechanism being directly secured to the drive shaft to cause the drive shaft to rotate, the drive mechanism comprising a geared electric motor having an output shaft for coupling to the drive shaft, the drive mechanism having a torque arm adapted to engage the trailer body so that the electric motor can impart torque to the drive shaft, and control means to control operation of the electric motor.

31. A demountable drive mechanism for coupling to a drive shaft of an operating device for displacing a rollover tarping system on a trailer, the drive mechanism being directly secured to the drive shaft to cause the drive shaft to rotate, the drive mechanism comprising a geared electric motor having an output shaft for coupling to the drive shaft, the drive mechanism having a torque arm adapted to engage a reaction surface so that the electric motor can impart torque to the drive shaft, and control means to control operation of the electric motor.